

PHEASANT

Ring-necked pheasant populations within the Great Plains fluctuate with the quality of habitat and severity of winters. In Colorado, a long-term decline in pheasant populations is superimposed over short-term, weather-induced fluctuations.

One factor causing this decline is habitat loss associated with increasingly intensive agriculture. Wheat fields and the residual stubble left standing over winter on the plains of eastern Colorado have long been the primary survival cover used by pheasants. Beginning in the late 1970s this stubble got shorter as newly developed, semi-dwarf wheat varieties became more popular. Shorter wheat and the ability of modern combines to handle large quantities of straw have made it possible for farmers to cut wheat lower to the ground to harvest grain from all possible plants. The net effect is most wheat stubble now averages about 6-10 inches in height.

Wheat stubble is the predominant cover available to pheasants from autumn until green wheat approaches 12 inches in height in spring. Consequently, wheat stubble is used extensively by pheasants for feeding, escape, and day and night roosting from harvest until it is cultivated in spring. Research in Colorado has shown survival of pheasants is directly related to the concealment quality of wheat stubble, which is determined by the height of wheat stubble and the presence and composition of weeds. Wheat stubble is also extensively used by hen pheasants and other ground nesting birds for nesting. The poor cover value of short stubble is compounded by the increasing use of herbicides or other mechanical treatments to control weeds after wheat harvest. Many farmers have incorporated millet, sunflowers, or dryland corn into their traditional wheat-fallow rotation to produce two crops in three years. Because some of these other crops don't provide significant cover for wildlife, it is imperative that the wheat stubble that remains provides adequate cover. Thus, management of wheat stubble has more potential to impact pheasant populations, positively or negatively, than any other activity or habitat development.

Stubble height and quality can be improved by use of stripper headers or by raising the cutter bar on conventional headers. Stripped wheat stubble was over twice as tall and provided double the cover value of conventionally cut wheat in a study conducted in eastern Colorado in 1995. Increasing stubble height by either method will improve pheasant survival, increase residues, trap more snow, improve soil moisture, and reduce wind and water erosion. Research in western Kansas has indicated that stubble height influences weed composition with shorter stubble dominated by annual grasses and tall stubble dominated by sunflowers and other broadleaves which are less troublesome. In this same study, herbicide treatments reduced pheasant use by 80%.

In 1992 the Division of Wildlife launched a Pheasant Habitat Improvement Program (PHIP) which provided grant money to Pheasants Forever Chapters in northeastern Colorado enabling them to develop pheasant habitat. During the first 5 years of this program nearly \$1.2 million was directed toward planting shrub thickets (754), switchgrass plots (228), and other habitat items. Pheasants Forever Chapters and the Colorado Division of Wildlife have formed working partnerships with NRCS and FSA to use Farm Bill program funds for enhancing farmland habitats for pheasants and other wildlife in Colorado.

The following guidelines may be used when writing specifications for wildlife practices for ring-necked pheasant in Colorado. These are guidelines only. They may need to be adapted to individual situations and site requirements.

ESTABLISHING PERENNIAL COVER IN CENTER PIVOT CORNERS

Follow NRCS Practice Standard 645, Wildlife Upland Habitat Management, and 550, Range Seeding. The objective for these guidelines is to provide year-long survival and nesting cover for pheasants on non-irrigated center pivot corners adjacent to irrigated cropland.

Guidelines:

- Use perennial, tall, warm-season grass mixtures suited to the ecological site. Switchgrass is the preferred grass species. It should comprise up to 40% of the mix on ecological sites where this plant is present in the potential plant community. Deep Sands and Choppy Sands Ecological Sites in Major Land Resource Area 72 are the recommended sites. Other suggested species on sandy soils include prairie sandreed, little bluestem, sand bluestem, and yellow Indiangrass on ecological sites where these plants are present in the potential plant community. Midgrasses like green needlegrass, western wheatgrass, and sideoats grama should be used in place of the tall grasses on loam or heavier soil site.
- Leadplant may be added at the rate of 0.1 to 0.2 pounds per acre on sandy sites. Fourwing saltbush should be used on loam or heavier soils. See the Ecological Site Description and Plant Materials Technical Note #59 for further suited species and seeding rates.
- Grass may be planted into sorghum, corn, or millet stubble but cannot be planted into wheat stubble.
- Herbicides may be desirable for weed control. Consult a licensed pesticide professional for herbicide recommendations specific to the site.
- Mowing, haying, or grazing is not permitted during grass establishment. Following deferrment for establishment, periodic grazing, mowing, or haying may be allowed as needed to keep the vegetative stand healthy. If the circle will be grazed the pheasant corners must be fenced out. Noxious weed control is the landowner's responsibility.
- Fee-hunting is not allowed on PHIP funded acres.
- Acreage limit: Three corners in grass and one in sorghum per quarter section.
- Length of PHIP contract: 10 years.

ESTABLISHING SHRUB THICKET/WINDBREAK PLANTINGS

Follow NRCS Practice Standards 612, Tree Planting; 422, Hedgerow Planting; and/or 380, Windbreak/Shelterbelt Establishment; and 645, Wildlife Upland Habitat Management. The objective for establishing windbreaks/thickets is to provide secure, year-round survival cover for pheasants and other wildlife.

Guidelines:

- Establish a plum thicket with an optional, three-row juniper windbreak.
- Location must be within 0.1 miles of cultivated cropland.
- Location must be at least 0.1 miles away from occupied residences.
- Plantings shall comply with CDOW PHIP guidelines and NRCS standards.

ESTABLISHING AND RETAINING PERENNIAL COVER IN BUFFERS AROUND ESTABLISHED SHRUB PLANTINGS

Follow NRCS Practice Standard 645, Wildlife Upland Habitat Management, and 550, Range Seeding. The objective of these guidelines is to provide secure, year-round survival and nesting cover for pheasants and other wildlife by establishing/maintaining warm-season grass buffers adjacent to shrub thickets/windbreaks.

Guidelines:

- Apply in croplands where shrub thickets have been established or are planned. For example: Retain a grass buffer around thickets when CRP expires and returns to crops.
- Use perennial, tall, warm-season grass mixtures suited to the ecological site. Switchgrass is the preferred grass species. It should comprise up to 40% of the mix on ecological sites where this plant is present in the potential plant community. Deep Sands and Choppy Sands Ecological Sites in Major Land Resource Area 72 are the recommended sites. Other suggested species include prairie sandreed, little bluestem, sand bluestem, and yellow Indiangrass on ecological sites where these plants are present in the potential plant community.
- Leadplant may be added at the rate of 0.1 to 0.2 pounds per acre on sandy soils. See the Ecological Site Description and Plant Materials Technical Note #59 for further suited species and seeding rates.
- Grass may be planted into sorghum, corn, or millet stubble, but cannot be planted into wheat stubble.
- Herbicides may be desirable for weed control. Consult a licensed pesticide professional for herbicide recommendations specific to the site.
- Mowing, haying, or grazing is not permitted during grass establishment. Following deferment for establishment, periodic grazing, mowing, or haying may be allowed as needed to keep the vegetative stand healthy. If the area will be grazed the planting must be fenced out. Noxious weed control is the responsibility of the landowner.
- Acreage limit: Five acres per site
- Length of PHIP contract: 10 years.

MANAGING SMALL GRAIN STUBBLE FOR PHEASANTS

Follow NRCS Practice Standard 645, Wildlife Upland Habitat Management, and 329A, 329B, or 344, Residue Management. The objective for these guidelines is to retain tall stubble through the winter to provide protective cover for pheasants throughout the year. When this standard is applied for pheasants, the following guidelines may be used.

Guidelines:

- Apply this guideline in wheat, barley, and oat fields within occupied pheasant range.
- Harvest small grain to leave stubble height at or greater than 18 inches.
- Tillage, grazing, or herbicide treatments will be delayed until April 1 or the year following harvest.
- Recommend a maximum of 800 acres per landowner for PHIP contracts.